

MONTHLY NOTICES

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ROYAL ASTRONOMICAL SOCIETY.

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NOVEMBER 8, 1907.

No. I

H. F. NEWALL, Esq., M.A., F.R.S., PRESIDENT, in the Chair.

Harold A. H. Christie, M.A., Royal Observatory, Greenwich, S.E.;

Bertram Francis Eardley Keeling, The Observatory, Helwân, near Cairo, Egypt; and

Frederick Alexander Lindemann, Sidholm, Sidmouth, Devon, were balloted for and duly elected Fellows of the Society.

The following candidates were proposed for election as Fellows of the Society, the names of the proposers from personal knowledge being appended:—

Henry Boase Austin, J.P., Government Buildings, Bloemfontein, Orange River Colony, South Africa (proposed by R. T. A. Innes);

W. Geoffrey Duffield, Physical Laboratory, Manchester University (proposed by Arthur Schuster);

W. Earnshaw Etzel, B.S., Litt.L., M.S.M.F., Professor of Science, St Bernard's, Rochester, N.Y., U.S.A. (proposed by William R. Brooks);

John M. Field, 1 Hart Street, Edinburgh (proposed by William Peck);

James D. Maddrill, Ph.D., International Latitude Observatory, Ukiah, California, U.S.A. (proposed by H. C. Plummer);

William Henry Rees, B.Sc., Mathematical Master, County School, Pontypridd, 2 Graigeven Place, Pontypridd, South Wales (proposed by Richard Kerr);

Thomas James Forrester Smith, Newstead, Wavertree, near Liverpool (proposed by F. W. Longbottom); and

Captain James Weir, F.R.G.S., Examiner of Masters and Mates in Navigation and Seamanship to the Board of Trade, 5 Clive Crescent, Penarth, Glamorgan, South Wales (proposed by Albert Taylor).

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2 *Mr. H. F. Newall, Observations of Cyanogen in* LXVIII. I,

One hundred and sixty-nine presents were announced as having been received since the last meeting, including, amongst others:—

W. W. Bryant, *History of Astronomy*; S. W. Burnham, *General Catalogue of Double Stars* (2 vols.); and Sir G. H. Darwin, *Scientific Papers*, vol. i., presented by the authors; Galileo, *Opere*, Edizio nazionale, vol. iii. part 2 and vol. xix., presented by the Italian Government; Lady Huggins, *Memoir of Agnes and Ellen Clerke*, presented by the author; Oxford *Astrographic Catalogue*, vol. iii.; *Observatoire de Paris, Atlas Photographique de la lune* (Loewy and Puiseux), fasc. 9; and Perth Observatory, Western Australia, *Catalogue of 420 standard stars*, presented by the Observatories; Sir N. Lockyer, *Report of the Eclipse Expedition to Majorca*, presented by the Solar Physics Committee.

Astrographic Chart; 134 charts (Algiers, Bordeaux, Paris, and San Fernando), presented by the French Government; 23 charts, presented by the Tacubaya Observatory, Mexico; and 76 charts, presented by the Royal Observatory, Greenwich.

Three transparencies of the moon from negatives of M. Puiseux, presented by Mr Knobel; 9 transparencies of the northern Milky Way, presented by Professor Max Wolf.

Medal to commemorate the Benjamin Franklin bicentenary (bronze), presented by the American Philosophical Society.

Spectroscopic Observations of Cyanogen in the Solar Atmosphere and in Interplanetary Space. By H. F. Newall, M.A., F.R.S.

The presence of cyanogen in the atmosphere of the Sun seems to be indicated by the distinct appearance of the cyanogen absorption bands at wave-length 3883 in the solar spectrum. But, so far as I am aware, no definite observations have been directed to settle the possible doubt as to whether the cyanogen is confined to the solar atmosphere. The possible alternatives are that it may be in the Earth's atmosphere, or in space between the Sun and the Earth.

[*Note.* Nov. 11.—Professor Dyson has kindly called my attention to evidence which had escaped my memory and is conclusive as to the presence of cyanogen in the chromosphere. Sir N. Lockyer found CN bands in the flash spectrum of the chromosphere photographed in India in 1898 (*Phil. Trans. R.S.*, vol. cxcvii. A., p. 202, and *Mem. R.A.S.*, vol. liv., App. p. [52]), and Professor Dyson himself found them in his observations in Sumatra in 1901 (*Phil. Trans.*, vol. ccvi. A., p. 438, and *Mem. R.A.S.* lvii., App. [36]). I have accordingly modified one or two of the statements in the paper.]

During the past summer I have made some observations in attempting to elucidate this point. The method adopted consisted in photographing side by side on one photographic plate two solar